



From the time of the creation of the Land Grant Colleges in the 1860s the United States has fostered scientific and engineering education and research to improve the quality of life for Americans. Today, the Nation's scientific establishment is a robust fabric woven of public and private institutions, large national user facilities, and instrumentation located throughout the country.

Synchrotron radiation light sources, high-flux neutron sources, electron-beam microcharacterization centers, and other specialized facilities enable scientists to carry out experiments that could not be done in the laboratories of individuals. Seventeen such facilities, constructed and operated by the Office of Basic Energy Sciences, are described in this booklet. They are part of the Department of Energy laboratory system, the largest of its kind in the world. With origins in the Manhattan Project, this system evolved over 50 years to become a major component of the Nation's commitment to maintain leadership in scientific discovery and knowledge generation.

In a typical year, thousands of researchers and their students from academia, industry, and the federal laboratory system conduct research at these facilities. For approved experiments, operating time is available without charge to those scientists whose intent is to publish their results

in the open literature. Proprietary research can be accommodated on a full-cost-recovery basis. The Office of Basic Energy Sciences and the national laboratories continually strive to make these facilities even more accessible and easier for the research community to use.



The combination of state-of-the-art, advanced research equipment that exploits the special properties of each facility together with the skills of the staff and scientists who come to use these facilities, has produced a host of important research results over the past two decades. Each year, basic and applied experiments at these facilities embrace the full range of scientific and technological endeavor,

including chemistry, physics, geology, materials science, environmental science, biology, and biomedical science.

This booklet, then, is more than a description of the services and equipment available at these seventeen collaborative-research centers. It is also a summary of a most effective return on part of our Nation's research investment.

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